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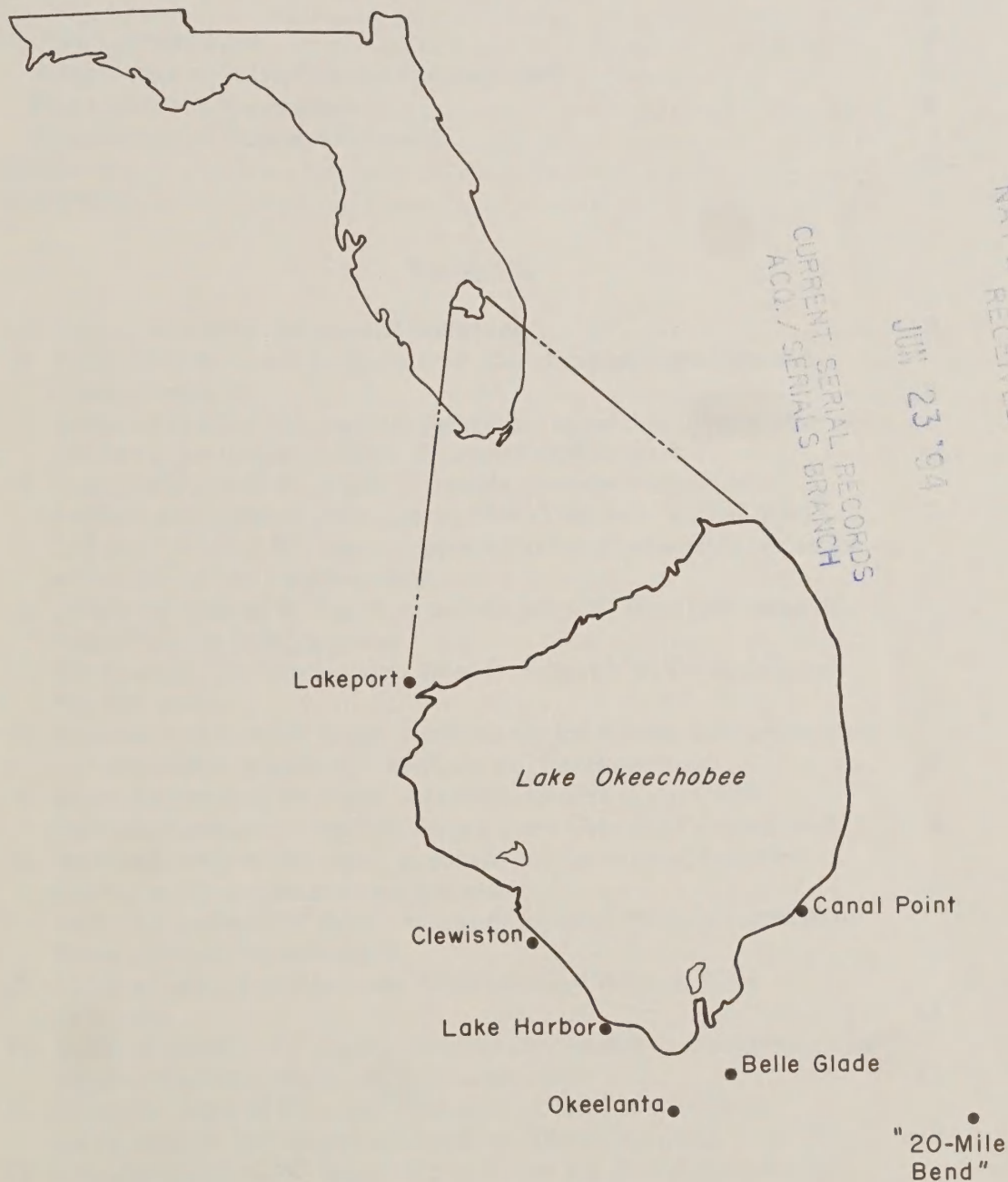
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S91 Sugarcane Variety Tests in Florida

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1977-78 Harvest Season



Science and Education Administration
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Sugarcane Variety Tests in Florida

1977-78 Harvest Season

By Edwin R. Rice¹

ABSTRACT

Test plantings of 30 varieties were harvested at 8 locations representing 4 soil types (Terra Ceia muck, Pahokee muck, Torry muck, and Pompano fine sand). Cane and sugar yields were measured against CP 63-588, the leading commercial variety in Florida. In the plant-cane tests, CP 73-1547, a new high-tonnage variety, produced more cane and sugar per acre than any other variety in the average of five experiments on Terra Ceia and Pahokee muck and was the outstanding variety on Pompano fine sand. CP 73-2040 surpassed all other varieties in yields of cane and sugar per acre on Torry muck. CP 72-1210 and CP 72-1312 were the outstanding varieties in the first-stubble tests. CP 72-1210 averaged more sugar per ton of cane and sugar per acre than any other variety on Terra Ceia and Pahokee muck. CP 72-1312 produced more cane and sugar per acre than any other variety on Pompano fine sand at harvest and averaged more tons of cane per acre than any other variety on Terra Ceia and Pahokee muck. CP 71-1086, CP 71-1027, and CP 71-1442 were outstanding in the second-stubble tests. CP 71-1086 ranked first in yields of cane and sugar per acre on Pompano fine sand and yielded more cane per acre than any other variety on Torry muck. CP 71-1027 averaged more sugar per ton of cane than any other variety at preharvest on Terra Ceia muck and yielded more cane and sugar per acre than any other variety on Torry muck. CP 71-1027 also exceeded all other varieties in yield of sugar per acre at preharvest on Pompano fine sand. CP 71-1442 averaged more tons of cane and sugar per acre than any other variety on Terra Ceia muck. **KEYWORDS:** Sugarcane varieties, sugarcane yields.

INTRODUCTION

The sugarcane harvest season in Florida usually extends from late October to early April. Varieties are needed that mature throughout this period in various types of soil and growing conditions. Most of the sugarcane is grown in areas normally subjected to freezing and damaging temperatures. A large proportion of our sugarcane research is being di-

rected toward developing varieties adapted to these areas.

The low temperatures in the 1977-78 season were not as severe and damaging as those in the 1976-77 harvest season; however, most test locations were exposed to several freezes. Although temperature recording instruments were not located in all test fields, instruments east of Canal Point and south of Clewiston recorded eight nights at 32° F or below between late December and late February (Bloodworth 1978). The most severe temperature was 26° F for 3 hours east of Canal Point on February 7, 1978. Some damage occurred on both mature cane and young plant cane, but damage to mature cane

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was not as extensive as in the previous harvest season. The damage to young plant cane and stubble will probably result in a substantial decrease in sugar production for the 1978-79 season.

TEST PROCEDURES

Replicated test plantings of 30 varieties were harvested at 8 locations. Five test fields were on Terra Ceia muck on properties of Gulf and Western Food Products Co. at Okeelanta; Hatton Bros., Inc., east of Canal Point; Wedgworth Farms, Inc., east of Belle Glade; A. F. Saunders, Inc., south of Clewiston; and S. D. Corp., near 20-Mile Bend in Palm Beach County. A test field on Pahokee muck, similar to Terra Ceia muck, was located on A. Duda and Sons farm, east of Belle Glade. One test field on Pompano fine sand was at Lykes Bros., near Lakeport in Glades County. A test field on Torry muck was on the Beardsley farm near Lake Harbor. This area, commonly known as warm land because of its nearness to Lake Okeechobee, seldom suffers from freeze damage because of the warming effect of the lake.

Data from numerous observations and preliminary tests had been studied, and the most promising varieties for commercial production were planted in replicated experiments. CP 63-588, the leading variety in Florida (Kidder and Rice 1978), was used as a check in all experiments. In each of 19 tests, plots of one sixty-second acre were arranged in a randomized block design with 4 replications.

The margins around the test plantings were buffered to eliminate mechanical damage and border effects, but individual four-row plots were not buffered. Two lines of seed cane were planted in each furrow. Fertilizing, cultivating, controlling of insects and rodents, burning, loading, and hauling were done according to established plantation practices for adjacent commercial fields.

To evaluate maturing quality, 10 stalks were taken at random from the unburned standing cane in 2 of the 4 replications of each variety at each location between October 25 and November 5, 1977. The samples were milled, the crusher juice was analyzed for Brix and sucrose, and indicated yields of sugar per ton of cane were determined. To calculate sugar per acre from these preharvest data, we assumed that yield of cane per acre was equal to the actual yield obtained at harvest.

All replicated tests were harvested between December 16, 1977, and March 10, 1978. After each plot had been burned, all cane was cut and piled by

hand and then weighed with a tractor-mounted weighing device. Fifteen full-length stalks were taken at random from each replication and transported to the Science and Education Administration's Laboratory at Canal Point for weighing, milling, and crusher juice analysis.

All values for sugar per ton of cane and sugar per acre in this report are indicated (theoretical) yields calculated in accordance with a simplification of the Winter-Carp-Geerligs formula (Arceneaux 1935); an explanation of the formula may be found in a previous publication (Rice and Hebert 1972). Variety correction factors (table 1) used in the formula were obtained from milling studies at Canal Point.²

Although indicated sugar yields reported herein may not be obtained by all sugar factories, these yields are representative of average values that can be obtained in Florida, and more important, they are valid for comparing varieties with different milling qualities and sucrose reduction factors.

RESULTS AND DISCUSSION

Tables 2-6 give the results of plant-cane experiments on Terra Ceia and Pahokee muck; tables 7-11 give the results of first-stubble experiments on Terra Ceia and Pahokee muck; and tables 12-16 give the results of second-stubble experiments on Terra Ceia muck. The results of plant cane and stubble experiments on Torry muck are shown in tables 17-19. Tables 20-22 present the results of plant-cane and stubble experiments on Pompano fine sand.

EXPERIMENTS ON TERRA CEIA AND PAHOKEE MUCK

CP 73-1547, a new high-tonnage variety, was outstanding in the plant-cane tests. This variety averaged more sugar per acre than any other variety in both preharvest and harvest tests (tables 4 and 6). It produced 1,945 pounds of sugar per acre more than CP 63-588 in the average of five plant-cane tests at harvest.

CP 73-2109, a high-sucrose variety, surpassed all other varieties in average indicated yields of sugar per ton of cane in both preharvest and harvest sam-

²The author is grateful to J. D. Miller, research geneticist, U.S. Sugarcane Field Station, Science and Education Administration, U.S. Department of Agriculture, Canal Point, Fla., for supplying the variety correction factors for this report.

ples, averaging 113 percent of CP 63-588 in both categories (tables 3 and 5).

CP 72-1210, a very promising, high-sucrose, high-tonnage variety, was outstanding in the first-stubble tests. This variety surpassed all other varieties in average indicated yields of sugar per ton of cane and sugar per acre at both preharvest and harvest (tables 8-11). CP 72-1210 exceeded CP 63-588 by 3,670 pounds of sugar per acre in the average of five first-stubble tests at harvest. This variety was also the outstanding variety in plant cane during the 1976-77 harvest (Rice 1977).

CP 72-1312, a vigorous, high-tonnage variety, produced an average of 59.53 tons of cane per acre in first-stubble tests and thus surpassed all other varieties in this category (table 7). It was surpassed only by CP 72-1210 in average yields of sugar per acre at both preharvest and harvest (tables 9 and 11).

CP 71-1442, a promising, high-tonnage, strong-stubbling variety, was the outstanding variety in the second-stubble tests. This variety averaged more sugar per acre than any other in both preharvest and harvest tests (tables 14 and 16). It produced 5,139 and 5,917 more pounds of sugar per acre than CP 63-588 in the above categories. CP 71-1442 averaged 59.48 tons of cane per acre and thus surpassed all other varieties in this category (table 12).

CP 71-1086, a vigorous, high-tonnage variety, produced high yields of cane and sugar per acre. It produced an average of 56.90 tons of cane and 12,520 pounds of sugar per acre at harvest and was exceeded only by CP 71-1442, but not by significant differences. This variety was also outstanding in the 1975-76 and 1976-77 harvests (Rice 1976, 1977).

CP 63-588 was harvested in plant-cane, first-stubble, and second-stubble tests. It surpassed all varieties in indicated yields of sugar per ton of cane in the average of harvest samples from three second-stubble tests (table 15).

EXPERIMENTS ON TORRY MUCK

Plant-cane, first-stubble, and second-stubble plantings were harvested on Torry muck at the Beardsley farm. CP 73-2040, a high-sucrose, high-tonnage variety, produced 83.20 tons of cane in the plant-cane test (table 17). It produced 19,485 and 20,126 pounds of cane per acre on both preharvest and harvest dates, respectively, and was not surpassed by any other variety in the above categories.

CP 72-1497 was the outstanding variety in the first-stubble experiment and thus surpassed all

others in yields of cane and sugar per acre on both preharvest and harvest dates (table 18).

CP 72-1210, a high-sucrose variety, surpassed all other varieties in indicated yields of sugar per ton of cane in both preharvest and harvest samples, averaging 112 and 104 percent of CP 63-588 in both categories.

CP 71-1027, a high-tonnage, strong-stubbling variety, was the outstanding variety in the second-stubble test. This variety produced 17,308 and 19,037 pounds of sugar per acre, respectively, in preharvest and harvest tests, thus surpassing all other varieties (table 19).

CP 71-1086, a very promising, high-tonnage variety, produced 80.19 tons of cane per acre, thus surpassing all other varieties in the second-stubble test. This variety was exceeded by only CP 71-1027 in yield of sugar per acre at harvest. CP 71-1086 was the outstanding variety in the previous harvest (Rice 1977).

CP 63-588 was harvested in plant-cane, first-stubble, and second-stubble tests. In the second-stubble test, it yielded 242.5 pounds of sugar per ton and was not exceeded by any other variety by a significant margin (table 19).

EXPERIMENTS ON POMPAÑO FINE SAND

CP 73-1547 was the outstanding variety in the plant-cane experiment and thus surpassed all other varieties in yields of cane and sugar per acre on both preharvest and harvest dates (table 20).

CP 72-1312 was the outstanding variety in the first-stubble test. It produced more cane and sugar per acre than any other variety in the January 4 harvest (table 21).

CP 70-1133, a new variety released in 1977, exceeded all other varieties in indicated yields of sugar per ton of cane and sugar per acre in the November 4 first-stubble preharvest and was exceeded only by CP 72-1312 in yields of cane and sugar per acre in the January 4 harvest.

CP 71-1086 produced 57.25 tons of cane and 14,038 pounds of sugar per acre in the second-stubble harvest and thus surpassed all other varieties in these categories (table 22). It was also the outstanding variety in the previous harvest (Rice 1977).

CP 71-1027, a vigorous, high-tonnage variety, was outstanding in the second-stubble preharvest. It yielded 12,761 pounds of sugar per acre and surpassed all other varieties in this category.

CP 63-588 produced high indicated yields of sugar per ton of cane in the plant-cane and stubble experiments at the Lykes Bros. farm. It yielded 260.2 and 276.9 pounds of sugar per ton of cane, respectively, in plant cane and first stubble and was not surpassed by any other variety by significant differences (tables 20 and 21). CP 63-588 yielded 278.2 pounds of sugar per ton of cane in second stubble and thus surpassed all other varieties in this category (table 22).

SUMMARY

The plant-cane series contains three varieties of particular interest, namely, CP 73-1547, CP 73-2040, and CP 73-2109. CP 73-1547 produced more cane and sugar per acre than any other variety in the average of five experiments on Terra Ceia and Pahokee muck. It was also the outstanding variety on Pompano fine sand. CP 73-2040 surpassed all other varieties in yields of cane and sugar per acre on Torry muck. CP 73-2109 produced outstanding yields of sugar per ton of cane on all the soils.

CP 72-1210 and CP 72-1312 were the outstanding varieties in the first-stubble experiments. CP 72-1210 averaged more sugar per ton of cane and sugar per acre than any other variety at both preharvest and harvest on Terra Ceia and Pahokee muck. CP 72-1312 produced more cane and sugar per acre than any other variety on Pompano fine sand at harvest. It also averaged more tons of cane per acre than any other variety on Terra Ceia and Pahokee muck.

CP 71-1086, CP 71-1027, and CP 71-1442 were

outstanding in the second-stubble experiments. CP 71-1086 ranked first in yields of cane and sugar per acre on Pompano fine sand. It also yielded more cane per acre than any other variety on Torry muck. CP 71-1027 averaged more sugar per ton of cane than any other variety at preharvest on Terra Ceia muck. It also yielded more cane and sugar per acre than any other variety at both preharvest and harvest on Torry muck. CP 71-1027 exceeded all other varieties in yield of sugar per acre at preharvest on Pompano fine sand. CP 71-1442 yielded more tons of cane and sugar per acre than any other variety in the average of preharvests and harvests on Terra Ceia muck.

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Table 1.—Variety correction factors and parentage¹

Variety	VCF	Parentage		
CP 63-588	1.00	C1 54-191	×	CP 57-120
CP 70-1133 .....	.98	67 P 6		CP 56-63
CP 70-1527 .....	.98	CP 62-374	×	CP 57-526
CP 71-1027 .....	.98	CP 52-68	×	CP 56-59
CP 71-1086 .....	.98	CP 52-68	×	CP 56-59
CP 71-1166 .....	.98	CP 62-374	×	CP 56-59
CP 71-1194	1.02	CP 62-374	×	CP 56-59
CP 71-1240 .....	.96	CP 62-374	×	CP 56-59
CP 71-1270 .....	.98	CP 62-374	×	CP 56-59
CP 71-1273 .....	.96	CP 62-374	×	CP 56-59
CP 71-1442	1.00	CP 59-73	×	CP 56-63
CP 71-1449	1.00	CP 59-73	×	CP 56-63
CP 71-1504	1.00	CP 62-374	×	CP 63-588
CP 71-1555 .....	.98	CP 57-621	×	C1 54-334
CP 71-2050 .....	.94	CP 62-374	×	CP 56-59
CP 72-1210 .....	.96	CP 65-357	×	CP 56-63
CP 72-1215 .....	.96	CP 65-357	×	CP 56-63
CP 72-1271 .....	.96	CP 65-357	×	CP 63-588
CP 72-1312 .....	.96	CP 65-357	×	CP 56-63
CP 72-1370 .....	.98	CP 65-357	×	CP 56-63
CP 72-1497 .....	.94	CP 68-1115	×	CP 63-306
			or	
				CP 56-63
CP 72-2079 .....	.96	CP 62-374	×	CP 63-588
CP 72-2083 .....	.96	CP 62-374	×	CP 63-588
CP 72-2086 .....	.96	CP 62-374	×	CP 63-588
CP 73-1172 .....	.94	CP 65-357	×	C1 54-1910
CP 73-1225 .....	.94	CP 68-1067	×	CP 56-59
CP 73-1311 .....	.94	CP 52-68	×	CP 63-588
CP 73-1547 .....	.98	CP 66-1043	×	CP 56-63
CP 73-2040 .....	.96	CP 68-1067	×	CP 63-306
CP 73-2109 .....	.98	CP 68-1154	×	CP 63-588

¹Variety correction factors (VCF) were used to calculate the theoretical yield of 96° sugar per ton of cane according to Arceneaux's simplification of the Winter-Carp-Geerligs formula.

Table 2.—Yields of cane, in tons per acre, from plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹					Average yield, all farms
	Hatton Bros. 1/6/78	Saunders 1/9/78	Okeelanta 1/23/78	Duda 2/3/78	Wedgworth 3/10/78	
CP 73-1547	67.01	69.81	51.84	75.18	59.50	64.67
CP 73-1311	54.55	59.69	47.76	72.04	54.64	57.74
CP 72-2086	57.85	62.54	41.15	69.60	50.66	56.36
CP 73-1172	61.42	59.06	² 38.77	70.96	51.06	56.25
CP 63-588	52.93	59.15	46.19	70.21	49.36	55.57
CP 73-1225	51.90	53.04	45.14	59.92	53.34	52.67
CP 72-2083	49.40	52.81	46.24	64.53	49.90	52.58
CP 72-2079	53.34	55.84	² 33.35	65.09	43.04	50.13
CP 73-2109	³ 55.49	59.50	² 28.12	³ 56.97	45.17	49.05
CP 73-2040	³ 45.42	51.92	² 25.26	³ 60.66	² 34.00	43.45
LSD: ⁴						
5% level	6.69	4.12	3.08	9.56	5.38	2.67
1% level	9.03	5.57	4.16	12.91	7.26	3.53

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Severe borer damage.

³Rat damage.

⁴LSD = Least significant difference between any 2 values.

Table 3.—Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and sampling date ¹						Average yield, all farms
	Hatton Bros. 10/25/77	Okeelanta 10/27/77	Saunders 10/28/77	S. D. Corp. 11/2/77	Wedgworth 11/2/77	Duda 11/4/77	
CP 73-2109	196.2	193.0	177.8	198.1	217.3	212.8	199.2
CP 72-2086	191.4	178.8	203.5	187.3	158.0	220.9	190.0
CP 72-2079	187.7	155.8	193.5	184.2	192.5	210.5	187.4
CP 73-2040	178.9	160.3	200.3	180.3	191.5	207.6	186.5
CP 73-1172	165.5	172.6	188.4	180.1	192.0	200.3	183.2
CP 72-1225	168.5	175.1	204.1	156.7	189.7	201.8	182.6
CP 72-2083	159.5	182.6	189.0	179.8	174.7	192.8	179.7
CP 73-1547	174.9	158.8	191.6	158.8	193.6	184.2	177.0
CP 63-588	164.3	177.0	170.1	169.2	183.5	193.4	176.2
CP 73-1311	173.8	132.6	204.7	151.1	170.6	199.4	172.0

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

Table 4.—Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of plant cane on Terra Ceia and Pahokee muck¹

Variety	Average yield by farm and sampling date ²					Average yield, all farms
	Hatton Bros. 10/25/77	Okeelanta 10/27/77	Saunders 10/28/77	Wedgworth 11/2/77	Duda 11/4/77	
CP 73-1547	11,720	8,232	13,376	11,519	13,848	11,739
CP 72-2086	11,072	7,358	12,727	8,004	15,375	10,907
CP 73-1172	10,165	6,692	11,127	9,804	14,213	10,400
CP 73-1311	9,481	6,333	12,218	9,322	14,365	10,344
CP 73-1225	8,745	7,904	10,825	10,118	12,092	9,937
CP 63-588	8,696	8,175	10,061	9,058	13,579	9,914
CP 73-2109	10,887	5,427	10,579	9,815	12,123	9,766
CP 72-2079	10,012	5,196	10,805	8,285	13,701	9,600
CP 72-2083	7,879	8,443	9,981	8,718	12,441	9,492
CP 73-2040	8,126	4,049	10,400	6,511	12,593	8,336

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

Table 5.—Indicated yields of 96° sugar, in pounds per ton of cane, from plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and sampling date ¹					Average yield, all farms
	Hatton Bros. 1/6/78	Saunders 1/9/78	Okeelanta 1/23/78	Duda 2/3/78	Wedgworth 3/10/78	
CP 73-2109	236.5	269.2	207.8	257.1	229.9	240.1
CP 73-2040	228.3	233.7	192.4	230.9	201.8	217.4
CP 72-2086	206.2	233.5	201.7	235.1	197.6	214.8
CP 63-588	208.5	219.1	208.9	212.3	211.1	212.0
CP 73-1547	211.5	218.7	201.0	211.4	217.5	212.0
CP 72-2083	205.6	212.9	216.3	232.6	181.3	209.7
CP 73-1311	201.9	244.3	191.3	217.8	190.0	209.1
CP 73-1172	203.8	228.9	193.6	212.3	199.8	207.7
CP 72-2079	206.7	231.7	183.5	219.7	191.4	206.6
CP 73-1225	195.1	216.9	194.7	199.3	181.8	197.6
LSD: ²						
5% level	18.1	19.6	13.2	11.9	19.3	7.2
1% level	24.5	26.5	17.9	16.0	26.0	9.5

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²LSD = Least significant difference between any 2 values.

Table 6.—Indicated yields of 96° sugar, in pounds per acre, from plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹					Average yield, all farms
	Hatton Bros. 1/6/78	Saunders 1/9/78	Okeelanta 1/23/78	Duda 2/3/78	Wedgworth 3/10/78	
CP 73-1547	14,173	15,267	10,420	15,893	12,941	13,739
CP 72-2086	11,929	14,603	8,300	16,363	10,010	12,241
CP 73-1311	11,014	14,582	9,136	15,690	10,382	12,161
CP 73-2109	13,123	16,017	5,843	14,647	10,384	12,003
CP 63-588	11,036	12,960	9,649	14,906	10,420	11,794
CP 73-1172	12,517	13,519	7,506	15,065	10,202	11,762
CP 72-2083	10,157	11,243	10,001	15,010	9,047	11,092
CP 72-2079	11,025	12,938	6,120	14,300	8,238	10,524
CP 73-1225	10,126	11,504	8,789	11,942	9,697	10,412
CP 73-2040	10,369	12,134	4,860	14,006	6,861	9,646
LSD: ²						
5% level	1,184	1,045	572	1,298	1,009	470
1% level	1,600	1,411	773	1,753	1,363	621

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²LSD = Least significant difference between any 2 values.

Table 7.—Yields of cane, in tons per acre, from first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹					Average yield, all farms
	S.D. Corp. 12/16/77	Duda 12/22/77	Hatton Bros. 1/6/78	Okeelanta 3/6/78	Wedgworth 3/10/78	
CP 72-1312	49.41	67.65	72.01	54.81	53.76	59.53
CP 72-1210	48.48	68.53	72.32	52.96	49.59	58.38
CP 70-1133	49.18	.....	63.28	.....	47.92	² 53.46
CP 72-1497	52.52	59.05	55.95	52.05	46.95	53.30
CP 72-1215	45.32	57.10	55.27	45.78	40.09	48.71
CP 72-1271	43.66	52.40	61.84	39.70	45.11	48.52
CP 72-1370	40.58	53.41	61.89	43.07	40.83	47.96
CP 63-588	34.20	58.23	53.01	39.65	38.92	44.80
LSD: ³						
5% level	7.95	4.54	6.72	5.59	4.53	2.58
1% level	10.81	6.22	9.14	7.66	6.17	3.41

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Average of 3 locations.

³LSD = Least significant difference between any 2 values.

Table 8.—Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and sampling date ¹					Average yield, all farms
	Hatton Bros. 10/25/77	Okeelanta 10/27/77	S.D. Corp. 11/2/77	Wedgworth 11/2/77	Duda 11/4/77	
CP 72-1210	171.7	225.4	210.3	238.3	217.3	212.6
CP 72-1271	170.7	222.4	193.0	225.0	208.6	203.9
CP 72-1497	174.1	218.2	192.0	218.9	216.3	203.9
CP 70-1133	175.8	.....	202.4	233.2	.....	² 203.8
CP 72-1370	149.4	212.5	201.0	222.1	221.2	201.2
CP 63-588	153.9	197.4	205.7	213.4	198.5	193.8
CP 72-1312	154.0	192.2	219.0	195.8	195.9	191.4
CP 72-1215	165.7	183.2	186.0	212.0	163.7	182.1

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Average of 3 locations.

Table 9.—Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of first stubble on Terra Ceia and Pahokee muck¹

Variety	Average yield by farm and sampling date ²					Average yield, all farms
	Hatton Bros. 10/25/77	Okeelanta 10/27/77	S.D. Corp. 11/2/77	Wedgworth 11/2/77	Duda 11/4/77	
CP 72-1210	12,417	11,937	10,195	11,817	14,892	12,252
CP 72-1312	11,090	10,534	10,821	10,526	13,253	11,245
CP 72-1497	9,741	11,357	10,084	10,277	12,772	10,846
CP 70-1133	11,125	.....	9,954	11,175	.....	³ 10,751
CP 72-1271	10,556	8,829	8,426	10,150	10,931	9,778
CP 72-1370	9,246	9,152	8,156	9,068	11,814	9,487
CP 72-1215	9,158	8,387	8,430	8,499	9,347	8,764
CP 63-588	8,158	7,827	7,035	8,306	11,559	8,577

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

³Average of 3 locations.

Table 10.—Indicated yields of 96° sugar, in pounds per ton of cane, from first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹					Average yield, all farms
	S.D. Corp. 12/16/77	Duda 12/22/77	Hatton Bros. 1/6/78	Okeelanta 3/6/78	Wedgworth 3/10/78	
CP 72-1210	229.3	262.2	218.9	250.1	259.8	244.1
CP 72-1271	222.8	256.5	227.2	249.5	254.5	242.1
CP 63-588	216.4	250.1	223.2	231.8	249.4	234.2
CP 72-1312	209.4	227.6	196.8	241.2	251.9	225.4
CP 70-1133	205.4	.....	219.8	.....	234.9	² 220.0
CP 72-1370	212.4	241.0	202.0	208.7	233.8	219.6
CP 72-1215	203.6	220.6	206.6	223.2	242.0	219.2
CP 72-1497	194.9	221.2	199.4	206.2	212.5	206.8
LSD: ³						
5% level	15.1	14.4	10.0	7.9	7.1	4.8
1% level	20.6	19.7	13.7	10.8	9.7	6.4

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Average of 3 locations.

³LSD = Least significant difference between any 2 values.

Table 11.—Indicated yields of 96° sugar, in pounds per acre, from first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹					Average yield, all farms
	S.D. Corp. 12/16/77	Duda 12/22/77	Hatton Bros. 1/6/78	Okeelanta 3/6/78	Wedgworth 3/10/78	
CP 72-1210	11,116	17,968	15,831	13,245	12,883	14,209
CP 72-1312	10,346	15,397	14,172	13,220	13,542	13,335
CP 70-1133	10,102	.....	13,909	.....	11,256	² 11,756
CP 72-1271	9,727	13,441	14,050	9,905	11,480	11,721
CP 72-1497	10,236	13,062	11,156	10,733	9,977	11,033
CP 72-1215	9,227	12,596	11,419	10,218	9,702	10,632
CP 63-588	7,401	14,563	11,832	9,191	9,707	10,539
CP 72-1370	8,619	12,872	12,502	8,989	9,546	10,506
LSD: ³						
5% level	1,076	966	941	688	596	383
1% level	1,464	1,323	1,281	943	811	508

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Average of 3 locations.

³LSD = Least significant difference between any 2 values.

Table 12.—Yields of cane, in tons per acre, from second stubble on Terra Ceia muck

Variety	Average yield by farm and harvest date			Average yield, all farms
	S.D. Corp. 12/16/77	Hatton Bros. 2/7/78	Wedgworth 3/10/78	
CP 71-1442	53.75	63.07	61.62	59.48
CP 71-1086	55.18	53.09	62.42	56.90
CP 71-1194	52.43	43.32	48.08	47.94
CP 70-1527	43.58	47.21	46.54	45.78
CP 71-1027	40.99	42.60	49.72	44.44
CP 71-1240	42.94	37.00	45.10	41.68
CP 71-1166	35.92	42.36	41.64	39.97
CP 71-1270	21.97	33.84	46.46	34.09
CP 71-1449	35.80	36.90	24.28	32.33
CP 71-1273	18.77	39.52	37.19	31.83
CP 63-588	18.46	34.94	35.32	29.57
CP 71-1555	16.26	28.94	39.92	28.37
CP 71-1504	16.11	23.98	30.89	23.66
LSD: ¹				
5% level	9.13	6.92	7.22	4.40
1% level	12.24	9.28	9.68	5.82

¹LSD = Least significant difference between any 2 values.**Table 13.—Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of second stubble on Terra Ceia muck**

Variety	Average yield by farm and sampling date			Average yield, all farms
	Hatton Bros. 10/25/77	S.D. Corp. 11/2/77	Wedgworth 11/2/77	
CP 71-1027	216.8	217.2	227.2	220.4
CP 71-1504	197.0	201.6	242.4	213.7
CP 63-588	217.8	189.6	226.3	211.2
CP 71-1449	208.6	193.5	227.1	209.7
CP 71-1194	214.5	201.2	196.2	204.0
CP 70-1527	192.4	196.2	216.3	201.6
CP 71-1086	206.9	181.4	214.2	200.8
CP 71-1555	202.8	184.8	212.6	200.1
CP 71-1273	195.9	189.8	214.2	200.0
CP 71-1442	198.2	180.6	203.9	194.2
CP 71-1240	197.9	178.5	205.3	193.9
CP 71-1166	173.2	170.4	200.4	181.3
CP 71-1270	178.8	166.5	186.9	177.4

Table 14.—Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of second stubble on Terra Ceia muck¹

Variety	Average yield by farm and sampling date			Average yield, all farms
	Hatton Bros. 10/25/77	S.D. Corp. 11/2/77	Wedgworth 11/2/77	
CP 71-1442	12,250	9,707	12,564	11,507
CP 71-1086	10,984	10,010	13,370	11,455
CP 71-1027	9,236	8,903	11,296	9,812
CP 71-1194	9,292	10,549	9,433	9,758
CP 70-1527	9,083	8,550	10,067	9,233
CP 71-1240	7,322	7,665	9,259	8,082
CP 71-1166	7,337	6,121	8,345	7,268
CP 71-1449	7,697	6,927	5,514	6,713
CP 71-1273	7,742	3,562	7,966	6,423
CP 63-588	7,610	3,500	7,993	6,368
CP 71-1270	6,050	3,658	8,683	6,130
CP 71-1555	5,869	3,005	8,487	5,787
CP 71-1054	4,724	3,248	7,488	5,153

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

Table 15.—Indicated yields of 96° sugar, in pounds per ton of cane, from second stubble on Terra Ceia muck

Variety	Average yield by farm and harvest date			Average yield, all farms
	S.D. Corp. 12/16/77	Hatton Bros. 2/7/78	Wedgworth 3/10/78	
CP 63-588	210.0	253.3	244.9	236.1
CP 71-1504	219.6	242.9	241.2	234.6
CP 71-1273	215.2	244.0	239.4	232.9
CP 71-1027	223.3	232.9	240.6	232.4
CP 71-1555	206.4	244.6	245.0	232.0
CP 71-1194	206.9	239.9	223.2	223.3
CP 71-1086	193.4	233.0	232.6	219.7
CP 71-1442	189.9	236.9	226.9	217.9
CP 71-1449	194.8	230.9	226.9	217.5
CP 70-1527	201.5	226.9	223.8	217.4
CP 71-1240	196.5	234.4	214.1	215.0
CP 71-1166	192.7	223.0	216.6	210.8
CP 71-1270	177.8	225.1	222.9	208.6
LSD: ¹				
5% level	14.8	10.7	13.8	7.4
1% level	19.8	14.4	18.6	9.8

¹LSD = Least significant difference between any 2 values.

Table 16.—Indicated yields of 96° sugar, in pounds per acre, from second stubble on Terra Ceia muck

Variety	Average yield by farm and harvest date			Average yield, all farms
	S. D. Corp. 12/16/77	Hatton Bros. 2/7/78	Wedgworth 3/10/78	
CP 71-1442	10,207	14,941	13,982	13,043
CP 71-1086	10,672	12,370	14,519	12,520
CP 71-1194	10,848	10,392	10,731	10,657
CP 71-1027	9,153	9,922	11,963	10,346
CP 70-1527	8,781	10,712	10,416	9,970
CP 71-1240	8,438	8,673	9,656	8,922
CP 71-1166	6,922	9,446	9,019	8,462
CP 71-1273	4,039	9,643	8,903	7,528
CP 71-1270	3,906	7,617	10,356	7,293
CP 63-588	3,877	8,850	8,650	7,126
CP 71-1449	6,974	8,520	5,509	7,001
CP 71-1555	3,356	7,079	9,780	6,738
CP 71-1504	3,538	5,825	7,451	5,605
LSD: ¹				
5% level	973	843	1,005	538
1% level	1,305	1,130	1,347	712

¹LSD = Least significant difference between any 2 values.

Table 17.—Yields of cane and sugar from plant cane on Torry muck

Variety	Cane harvest 12/30/77 (tons/acre)	96° sugar at preharvest 10/28/77		96° sugar at harvest 12/30/77	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 73-2040	83.20	234.2	19,485	241.9	20,126
CP 73-2109	76.37	230.3	17,588	257.2	19,642
CP 72-2083	71.97	210.6	15,157	255.4	18,381
CP 73-1172	76.62	210.4	16,121	228.9	17,538
CP 73-1547	75.30	197.0	14,834	232.3	17,492
CP 73-1311	66.93	213.2	14,269	244.2	16,344
CP 63-588	59.25	225.4	13,355	242.2	14,350
CP 73-1225	60.32	196.0	11,823	216.8	13,077
CP 72-2086	55.19	217.6	12,009	235.9	13,019
CP 72-2079	50.49	213.2	10,764	240.0	12,118
LSD: ²					
5% level	8.54	(³)	(³)	12.0	1,286
1% level	11.53	(³)	(³)	16.2	1,736

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²LSD = Least significant difference between any 2 values.

³Not determined.

Table 18.—Yields of cane and sugar from first stubble on Torry muck

Variety	Cane harvest 12/30/77 (tons/acre)	96° sugar at preharvest 10/28/77		96° sugar at harvest 12/30/77	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 72-1497	84.38	204.6	17,264	219.8	18,547
CP 72-1210	74.50	214.1	15,950	238.7	17,783
CP 72-1312	81.34	154.0	12,526	206.4	16,788
CP 72-1215	71.90	194.9	14,013	224.9	16,170
CP 70-1133	76.30	177.7	13,558	207.2	15,809
CP 72-1370	63.01	213.0	13,421	230.4	14,575
CP 72-1271	59.81	177.0	10,586	231.6	13,852
CP 63-588	60.12	191.5	11,513	229.2	13,780
LSD: ²					
5% level	11.54	(³)	(³)	(⁴)	2,163
1% level	15.71	(³)	(³)	(⁴)	2,943

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²LSD = Least significant difference between any 2 values.

³Not determined.

⁴Not significant.

Table 19.—Yields of cane and sugar from second stubble on Torry muck

Variety	Cane harvest 12/30/77 (tons/acre)	96° sugar at preharvest 10/28/77		96° sugar at harvest 12/30/77	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 71-1027	78.96	219.2	17,308	241.1	19,037
CP 71-1086	80.19	176.4	14,146	220.4	17,674
CP 71-1442	72.88	222.7	16,230	238.5	17,382
CP 71-1194	73.24	210.2	15,395	226.2	16,567
CP 70-1527	74.91	195.8	14,667	217.1	16,263
CP 71-1240	62.69	181.8	11,397	226.4	14,193
CP 63-588	56.13	222.6	12,494	242.5	13,612
CP 71-1273	57.62	204.5	11,783	232.9	13,420
CP 71-1504	54.48	222.8	12,138	244.3	13,309
CP 71-1166	59.24	220.4	13,056	220.6	13,068
CP 71-1555	53.29	213.6	11,383	240.7	12,827
CP 71-1270	59.34	144.8	8,592	215.5	12,788
CP 71-1449	50.66	237.9	12,052	252.0	12,766
LSD: ²					
5% level	8.74	(³)	(³)	20.5	1,774
1% level	11.72	(³)	(³)	27.5	2,190

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²LSD = Least significant difference between any 2 values.

³Not determined.

Table 20.—Yields of cane and sugar from plant cane on Pompano fine sand

Variety	Cane harvest 1/4/78 (tons/acre)	96° sugar at preharvest 11/4/77		96° sugar at harvest 1/4/78	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 73-1547	71.80	219.2	15,738	243.8	17,505
CP 73-1311	61.42	228.9	14,059	261.9	16,086
CP 73-1172	64.12	227.3	14,574	240.4	15,414
CP 72-2086	59.22	227.0	13,443	258.9	15,332
CP 63-588	58.00	220.2	12,772	260.2	15,092
CP 72-2079	58.02	225.5	13,084	257.9	14,963
CP 72-2083	57.79	223.1	12,893	254.2	14,690
CP 73-2040	51.78	228.0	11,806	252.0	13,048
CP 73-2109	48.17	245.6	11,830	265.6	12,794
CP 73-1225	51.81	232.6	12,051	246.6	12,776
LSD: ²					
5% level	7.65	(³)	(³)	8.5	980
1% level	10.34	(³)	(³)	11.4	1,323

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²LSD = Least significant difference between any 2 values.

³Not determined.

Table 21.—Yields of cane and sugar from first stubble on Pompano fine sand

Variety	Cane harvest 1/4/78 (tons/acre)	96° sugar at preharvest 11/4/77		96° sugar at harvest 1/4/78	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 72-1312	59.34	241.4	14,325	272.0	16,140
CP 70-1133	56.58	253.2	14,326	264.4	14,960
CP 72-1370	56.21	239.9	13,485	265.4	14,918
CP 72-1497	48.05	231.8	11,138	243.9	11,719
CP 72-1215	44.34	235.4	10,438	257.0	11,395
CP 72-1210	40.56	236.4	9,588	277.4	11,251
CP 72-1271	39.01	231.0	9,011	268.9	10,490
CP 71-2050	40.63	226.2	9,190	241.4	9,808
CP 63-588	31.64	251.2	7,948	276.9	8,761
LSD: ²					
5% level	12.90	(³)	(³)	14.0	1,482
1% level	17.48	(³)	(³)	19.0	2,009

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²LSD = Least significant difference between any 2 values.

³Not determined.

Table 22.—Yields of cane and sugar from second stubble on Pompano fine sand

Variety	Cane harvest 1/4/78 (tons/acre)	96° sugar at preharvest 11/4/77		96° sugar at harvest 1/4/78	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 71-1086	57.25	220.5	12,624	245.2	14,038
CP 71-1027	51.27	248.9	12,761	262.0	13,433
CP 71-1240	46.55	229.5	10,683	252.8	11,768
CP 71-1442	42.91	238.2	10,221	264.6	11,354
CP 63-588	39.32	245.3	9,645	278.2	10,939
CP 71-1194	43.38	226.8	9,838	250.1	10,849
CP 71-1555	40.87	245.8	10,046	262.5	10,728
CP 70-1527	43.58	207.6	9,047	231.9	10,106
CP 71-1166	35.66	231.1	8,241	248.1	8,847
CP 71-1504	30.04	245.2	7,366	266.6	8,009
CP 71-1270	32.27	191.4	6,176	245.1	7,909
CP 71-1273	27.93	227.6	6,357	251.4	7,022
CP 71-1449	22.71	257.7	5,852	255.5	5,802
LSD: ²					
5% level	8.46	(3)	(3)	14.7	1,119
1% level	11.34	(3)	(3)	19.7	1,500

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²LSD = Least significant difference between any 2 values.

³Not determined.

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